

North America

Environmental Markets | Emissions

California Climate Bills Could Set Precedent for Emissions Policies in Other States

Aggressive Bill Package Would Significantly Expand Renewable Energy, Petroleum Use and Energy Efficiency Goals

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Policy Brief

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Key Takeaways:

- California leads the United States in renewable energy installations largely through its Renewable Portfolio Standard of 33 percent renewables by 2020, and aims to expand this policy and other clean energy initiatives through bills like SB 350
- The state's leading Democrat senators aim to extend clean energy and climate goals beyond 2020 to continue to an increasingly low-carbon future
- Despite pushback from fossil fuel industries and state congressional debate, multiple proposal provisions will likely pass and could shape similar policies in other states

Entities Mentioned:

- American Lung Association
- Advanced Energy Economy Institute
- California Air Resources Board
- California Energy Commission
- California Public Utilities Commission
- Environmental Defense Fund
- Environmental Protection Agency
- Stanford University
- Yale University
- Western States Petroleum Association

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[New Massachusetts Energy Bill Targets Energy Resource Diversity](#)

California Senators Propose to Increase State’s Renewable Energy Targets in Support of Governor’s 50-50-50 Goal

On February 10, 2015, California Democrat Senator Kevin de León publicly announced four bills as part of the California Climate Leadership bill package to support the state’s Renewable Portfolio Standard (RPS) and establish objectives beyond its 2020 emissions reduction targets. These proposals, in addition to similar proposed measures, would directly benefit renewable energy, energy efficiency, energy storage and zero-emission-vehicle industries (Table 1).

The bills aim to achieve Governor Brown’s 50-50-50 plan announced in his January 5 inaugural address:

- To increase the state’s renewable energy target from 33 percent in 2020 to 50 percent in 2030
- To reduce petroleum use in cars and trucks by up to 50 percent
- To achieve a 50 percent increase in existing buildings’ energy efficiency and make heating fuels cleaner

Table 1 – Proposed Policies to Meet 50-50-50 Goal

Policy	Date Proposed / Status	Proposed Policy Change	Existing Policy Environment
SB 32	Introduced 12.1.2014 / Senate Environmental Quality Committee	Would extend California’s emissions reduction target to 80 percent below 1990 levels by 2050	<ul style="list-style-type: none"> • AB 32 - Global Warming Solutions Act of 2006 - targets reducing emissions to 1990 levels by 2020 • Sections 38550 and 38551 of the Health and Safety Code outlines California’s 2020 emissions limit
SB 350	Introduced 2.9.2015	Would raise California’s RPS from 33 percent to 50 percent, aim for a 50 percent reduction in petroleum use and increase energy efficiency in buildings by 50 percent by 2030	<ul style="list-style-type: none"> • SB 2 - RPS Program (2011) - requires 33 percent renewable energy by 2020 • AB 1493 - Clean Cars Law - requires 30 percent overall reduction in GHG emissions on vehicles by 2016 from 2009 models • California Code of Regulations (CCR), Title 24, Part 6 (CA Energy Code) - a comprehensive suite of building energy efficiency standards
SB 189	Introduced 2.9.2015 / Senate Committee on Rules	Would add Section 12897 to the Government Code to establish the Committee on Maximizing Jobs and Economic Growth to advise state agencies on clean energy- and emissions-related policies	<ul style="list-style-type: none"> • Sections 12890 - 12893 of Government Code - requires state agencies to report GHG emission reduction measures
SB 185	Introduced 2.9.2015 / Senate Committee on Rules	Would add Article 5 to Chapter 21 of Division 7 of Title 1 of the Government Code, requiring the state’s two largest pension funds - Public Employees Retirement System (CalPERS) and the State Teacher’s Retirement System (CalSTRS) - to divest their portfolios of coal companies	<ul style="list-style-type: none"> • Chapter 21 of Division 7 of Title 1 of the Government Code - governs California’s public pension and retirement plans

Source: California Legislature, EnerKnol Data

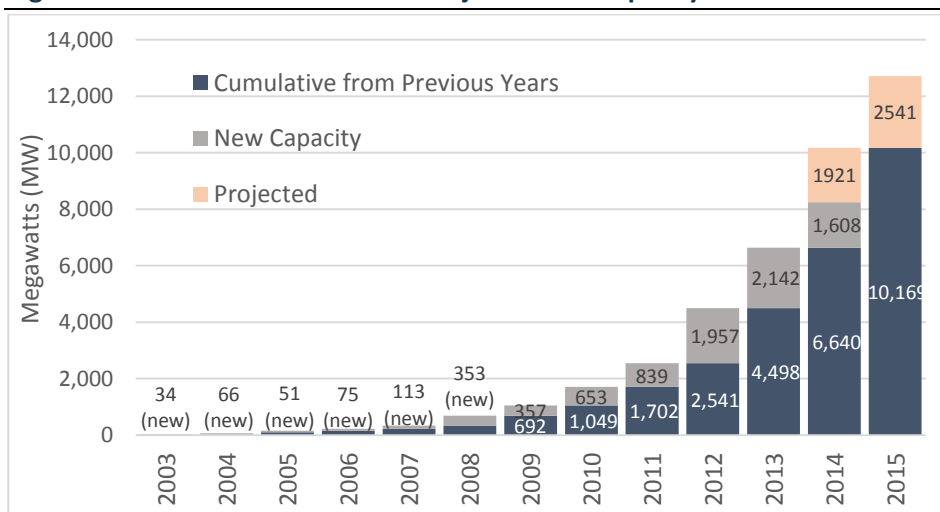
SB 350 Would Expand the State’s Renewable Portfolio Standard, Double Efficiency Goals, and Reduce Petroleum Use

SB 350 (the Clean Energy and Pollution Reduction Act of 2015 sponsored by Sens. Kevin de León and Senator Mark Leno) would implement new “Golden State Standards 50-50-50” benchmarks by raising the RPS to 50 percent, increasing building energy efficiency 50 percent and achieving a 50 percent reduction in petroleum use by 2030. The bill would make these standards permanent, able to be tracked and enforceable by enacting them into law and building on existing accountability mechanisms to ensure full implementation. The state Public Utilities Commission (PUC) and Air Resources Board would oversee the laws.

The increased RPS goals build on the current RPS success. The existing standards, established in 2002 under Senate Bill 1078, require 20 percent of retail electricity sales to be served by renewable energy sources by 2013, 25 percent by 2016 and 33 percent by 2020. Since 2003, California has added more than 8 gigawatts (GW) of renewable energy capacity under its RPS program (Figure 1). California’s three largest investor-owned utilities (IOUs) – Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E) – reported in their August 2014 compliance reports a combined 20.9 percent qualified renewable energy-served load for the 2011-2013 compliance period. The three IOUs account for approximately 68 percent of California’s retail electric sales. The California PUC reports IOUs are on track to meet the 25 percent RPS requirement in 2016, bolstering the argument that the new bill’s targets are within reach.

California utilities are on track to meet current RPS goals

Figure 1 – California Installed and Projected RPS Capacity



Source: CA PUC, EnerKnol Data

SB 350 Would Set Ambitious Energy Efficiency Goal

SB 350 would set a high energy efficiency goal, requiring a 50 percent increase by 2030. This will be increasingly difficult to achieve on existing buildings because initial low cost investments are completed. For example, low cost investments may include building lighting, appliance, and heating, ventilation

and air-conditioning (HVAC) upgrades. Costlier energy efficiency investments may include thermal or battery storage systems, comprehensive building energy management system upgrades and large scale building envelope improvements.

California state energy agencies already allocate more than \$1.5B per year on energy efficiency programs. Roughly \$1B is spent by the California Public Utilities Commission (CPUC) and utilities via utility-sponsored programs such as rebates for high-efficiency appliances, HVAC systems and insulation. In addition, Proposition 39 – The California Clean Energy Jobs Act – has generated approximately \$500M annually to assist schools in switching to clean energy and reducing energy use.

In December 2014, the Advanced Energy Economy Institute (AEEI) issued the California Advanced Energy Employment Survey, showing that California has more than 40,000 businesses serving advanced energy markets. The state has created roughly 432,000 jobs, a 5 percent increase in jobs over 2013. The University of California at Berkeley Labor Center estimates that meeting California's energy efficiency goals in 2020 will generate 211,000 total jobs. That is more than one percent of California employment. Despite the state funding measures, the significant industry and building-owner investments will also need to be committed to avoid diminishing returns on incremental energy efficiency investments between now and 2030.

Energy efficiency goal would require significant investments

SB 350 Petroleum Reduction Goal Would Support ZEVs, Hinder Oil and Gas

SB 350 would reduce emission costs but present revenue losses for oil and gas industries in California. The proposal would reduce the state's petroleum use 50 percent by 2030 through a mix of increased public transportation, alternative fuel/zero emission vehicles and overall fuel efficiency. This will further enhance the state's already aggressive push toward energy efficient transportation. Over the last two decades, California has made cars vastly more efficient and less reliant on petroleum consumption. Since 1978, the state's energy-efficiency standards have saved Californians \$66B in electricity and natural gas savings.

Petroleum industry states 50 percent reduction is "impossibly unrealistic"

Statistics from the California Air Resources Board (CARB) show that these measures would ultimately reduce costs to the state. Oil dependence costs California \$33-55B each year. Over 100,000 miles, a 40 mile-per-gallon (mpg) car saves \$16,668 in fuel costs compared to a 15 mpg car (assuming \$4/gallon fuel costs). As a result, reducing petroleum use and improving vehicle efficiency would cut costs and improve California's economic productivity and competitiveness.

However, this provision in the bill would also directly result in net losses to oil and gas industries. The Western States Petroleum Association (WSPA) has opposed SB 350's proposed mandate for a 50 percent reduction in the amount of petroleum use by 2030, stating that it is an "impossibly unrealistic goal." WSPA noted that the goal would require the removal of eight billion gallons of

gasoline and diesel from the state's fuel supply with no guarantees to replace them. The state's petroleum producers, refiners and marketers account for approximately 500,000 jobs and supply industries that sustain the state economy, which is the eighth largest in the world. WSPA also pointed out that the proposal is a major distraction from the more important work of advancing the state's climate agenda beyond the AB 32's 2020 horizon.

SB 32 Addresses Job Creation and Innovation in Meeting Increased Emissions Reduction Goals

Another climate bill, SB 32, would require California to significantly shift energy generation to non-emitting energy sources. It also would require large industrial manufacturers to shift in the same direction. The bill, introduced by Sen. Pavley (D-Ventura) in December 2014, would expand the state's emissions reduction target of matching 1990 levels (431 million metric tons of CO₂ equivalent [MMTCO₂e]) to 80 percent below 1990 levels (~86 MMTCO₂e) by 2050. It would also aim to achieve four goals: job creation, improved public health, technology innovation and regional policy collaboration. The bill would provide flexibility to adjust strategies to meet the target, based on changing technological and economic conditions. It would also provide flexibility to integrate with complementary policies, such as standards for renewable power, energy efficiency in buildings and petroleum reductions.

Under existing state policy – the Global Warming Solutions Act of 2006 – the California Air Resources Board (CARB) was tasked to develop regulations and market mechanisms to reduce the state's GHG emissions to 1990 levels by 2020. The policy requires entities with more than 25,000 metric tons of annual emissions to buy carbon allowances from CARB through quarterly auctions. This cap-and-trade component requires regulated entities to have sufficient emission allowances to cover their emissions with the ability to trade allowances in the open market. With its first auction in November 2012, California became the first individual state to implement a cap-and-trade program. Since that time, the state has held nine auctions, with clearing prices trending between \$10-14 per allowance and cumulative proceeds exceeding \$960 million. To achieve its goals, SB 32 would rely heavily on non-emitting energy generation technology to proliferate at a large scale. The existing cap-and-trade program would also force large-scale emitters to invest in non-emitting energy generation, as allowance prices will rise with a tightening future cap. SB 32 will also combine with other energy efficiency and RPS programs to reach 80 percent emissions reductions below 1990 levels by 2050.

SB 32 would require large-scale renewables proliferation to meet increased GHG emission reduction goals

SB 189 Would Promote Clean Energy Job Growth and Economic Benefits

SB 189, introduced by Sen. Ben Hueso (D-San Diego) on Feb. 9, would create a Committee on Maximizing Jobs and Economic Growth to advise and inform state agencies on clean energy and climate actions that ensure maximum job creation and economic benefits. This is combined with a mandated annual report from the Committee to the Legislature and the Governor. The bill emphasizes the need for a more permanent and formal committee to advise agencies on maximizing expenditure of public funds and implementing low-carbon policies as the legislature and the governor articulate the next steps for

clean energy and climate policies. If the proposed emissions reduction, energy efficiency and renewable energy bills pass, state agencies will require consultation to best fund and achieve the provisions. The proposed committee under SB 189 will provide the necessary guidance to achieve the outlined goals.

SB 185 Would Target Coal Resource Divestitures

SB 185, introduced by Sen. Kevin de León (D-Los Angeles), would require the state's two largest state pension funds, the Public Employees Retirement System (CalPERS) and the State Teacher's Retirement System and CalSTRS), to divest their portfolios of coal companies. According to CalPERS, its portfolio currently contains approximately 30 coal mining/producing companies valued at approximately \$167M. CalPERS is the nation's largest public pension fund, with assets totaling \$295B as of September 30, 2014. CalSTRS reportedly has \$132M in coal assets. According to the California Energy Commission (CEC), roughly 8 percent of the state's energy needs are met by coal resources, most of which comes from imports for Southern California municipal utilities. This dependence has been in steady decline. Coal divestiture has been undertaken by funds such as the Stanford University Endowment, Yale University and the Rockefeller Brothers Fund. Students across 300 college campuses nationwide have urged their respective institutions to divest. Seventeen U.S. colleges and universities have divested from fossil fuels since 2011, according to the Fossil Free project. The current academic divestiture level, which is likely well below \$1 billion, will not significantly impact the coal industry, unlike other funds. The coal industry response reiterates the fuel's importance in the domestic and international electricity generation mix, as other sources are not technologically or quantitatively able to meet demand.

State pension fund coal divestitures would total nearly \$300M

Insight for Industry: California's Supportive Renewable Energy Environment Could Spill Into Other States, Set Tone for Federal Debate

The new California bills will see considerable debate in the state legislature. The Western States Petroleum Association (WSPA) has already begun a campaign to push back against Sen. de León's proposals. California Republicans, utilities and the oil and gas industry have expressed concern that the policies are unfair to middle class workers and would hurt economic growth. The state governing body has been largely controlled by the Democratic Party since 1959, but Democrats lost their supermajority in the November 2014 elections, giving Republican members room to stall or kill controversial provisions. Still, California has enough political capital in the renewable energy markets that multiple provisions in the proposals will likely pass the California State Legislature, provided Democrats can support middle-class development through an influx of green jobs. The state has already attracted more than \$27B in private investment and currently has more than 400,000 jobs in the clean energy industry. Policies being implemented to achieve the goal are also projected to reduce pollution-related health costs by \$8.3B over the next decade, according to a study by the American Lung Association and the Environmental Defense Fund. With consumer-friendly climate policies, such as building and appliance standards, the average residential electric bill has dropped \$44 since 2006 (when adjusted for

Multiple provisions will likely pass the California State Legislature

inflation), and the average Californian spends \$305 less overall on energy each year than the national average. The bills would also build on California's competitive advantage as a technology and policy leader while neighboring states, the federal government and international trading partners such as China and Mexico begin charting their own pathways to a low-carbon future.

As the Environmental Protection Agency (EPA) continues to roll out climate change rules and implement the individualized state portfolios to reduce emissions from power sources, other states could continue to look to California's policies for economic and climate impact examples. California's cap-and-trade program builds on the nine-state Regional Greenhouse Gas Initiative, which began in 2008. Both programs could potentially be used as tools to meet EPA's proposed Clean Power Plan, which would require states to achieve varying emissions reductions by 2030. On February 17, the Washington State Legislature will consider HB 1314 in its Executive to implement a carbon pollution market program similar to California's to reduce GHG emissions. Oklahoma, Vermont, Kansas and Missouri are also considering changes to renewable energy standards this month.

The final incorporation of market-based mechanisms will largely be determined by party control at the state level. For example, in Colorado, where Republicans hold the majority by a slight margin, the state senate passed SB 15-044 on Feb. 5, which would reduce (instead of increase) investor-owned utilities' Renewable Energy Standard (RES) requirements from 20 to 15 percent for 2015 and eliminate utilities' existing requirement to meet a 30 percent RES obligation by 2020.

Disclosures Section

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Regulatory and Legislative agendas are subject to change.

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